

GROSS ANATOMY FINAL EXAM

NAME _____

DATE _____

SELECT THE SINGLE BEST ANSWER

1. Which of the following muscles produces eversion of the foot?
 - A. ~~Tibialis posterior~~
 - B. ~~Tibialis anterior~~
 - C. ~~Soleus~~
 - D. Peroneus brevis
 - E. Flexor Hallucis brevis

2. Contents of the adductor (subsartorial) canal include all of the following EXCEPT:
 - A. Obturator nerve
 - B. Saphenous nerve
 - C. Nerve to vastus medialis muscle
 - D. Femoral artery
 - E. Femoral vein

3. Muscles attached to the greater trochanter of the femur include all of the following EXCEPT:
 - A. Gluteus medius
 - B. Piriformis
 - C. Obturator internus
 - D. Gluteus minimus
 - E. Iliopsoas

4. A patient in the supine position with the hip and knee joints in the anatomical position is asked to abduct the lower limb against resistance provided by the physician. This exercise tests which of the following muscles?
 - A. ~~Gluteus maximus~~
 - B. Gluteus medius
 - C. ~~Sartorius~~
 - D. ~~Quadratus femoris~~
 - E. ~~Pectineus~~

5. All of the following are true regarding the fascia lata **EXCEPT**:
- A. It invests gluteus maximus muscle.
 - B. The tensor fascia lata muscle inserts into it.
 - C. It is the membranous layer of the superficial fascia.
 - ~~D. The saphenous hiatus is a perforation in it.~~
 - ~~E. It crosses the knee joint.~~
6. All of the following areas drain lymphatic fluid to the horizontal group of superficial inguinal nodes **EXCEPT**:
- A. Skin and underlying fascia over dermatome T12.
 - B. Penis
 - C. Ischiorectal fossa
 - D. Lower one-half of anal canal
 - E. Vaginal part of cervix
7. Nerves which innervate muscles capable of knee flexion include all of the following **EXCEPT**:
- ~~A. Superior gluteal~~
 - ~~B. Femoral~~
 - ~~C. Common peroneal~~
 - ~~D. Tibial~~
 - ~~E. Obturator~~
8. Branches of the femoral artery include all of the following **EXCEPT**:
- A. Superficial epigastric
 - B. Inferior epigastric
 - C. Profunda femoris
 - D. Descending genicular
 - E. Superficial circumflex iliac
9. All of the following contribute to the maintenance of the medial longitudinal arch of the foot **EXCEPT**:
- A. Abductor hallucis muscle
 - B. Plantar calcaneonavicular ligament
 - C. Cuboid
 - D. Long plantar ligament
 - E. Tibialis posterior tendon

10. A sprained ankle which results from excessive inversion would most likely involve the
- A. Deltoid ligament
 - B. Calcaneofibular ligament
 - C. Anterior cruciate ligament
 - D. Inferior tibiofibular ligament
 - E. Short plantar ligament
11. Muscles which typically receive a dual nerve supply include all of the following **EXCEPT**:
- ~~A. Biceps femoris~~
 - ~~B. Pectineus~~
 - ~~C. Adductor magnus~~
 - D. Iliopsoas
 - E. Rectus femoris
12. "Footdrop" is a condition in which plantarflexion is an unopposed movement. This condition usually is the result of trauma to the
- ~~A. Tibial nerve in the popliteal fossa.~~
 - B. Common peroneal nerve at the neck of the fibula.
 - ~~C. Superficial peroneal nerve in the anterior leg compartment.~~
 - ~~D. Deep peroneal nerve in foot.~~
 - ~~E. Femoral nerve in the femoral triangle.~~
13. All of the following supply sensory innervation to the foot **EXCEPT**:
- A. Saphenous nerve
 - B. Sural nerve
 - C. Superficial peroneal nerve
 - ~~D. Deep peroneal nerve~~
 - E. Lateral femoral cutaneous nerve
14. Following a football injury, the emergency room physician notes that the patient's right tibia could be moved anteriorly with excessive freedom when the knee was flexed. This sign suggests damage to which of the following ligaments?
- A. Oblique popliteal
 - B. Fibular collateral
 - C. Anterior cruciate
 - D. Posterior cruciate
 - E. Patellar ligament

15. Following a lesion to the tibial part of the sciatic nerve in the gluteal region, some active knee flexion is still possible. All of the following muscles could account for this remaining flexion **EXCEPT**:

- ~~A. Adductor magnus~~
- B. Gracilis
- ~~C. Sartorius~~
- ~~D. Short head of biceps femoris~~

16. All of the following have attachment to the pubis bone **EXCEPT**:

- A. Obturator internus muscle
- B. Adductor longus muscle
- C. Portions of levator ani muscle
- D. Bulbospongiosus muscle
- E. Ischiocavernosus muscle

17. Flexion of the thigh would be limited by which of the following ligaments?

- A. Ischiofemoral
- B. Iliofoemoral
- C. Pubofemoral
- D. Sacrospinous
- E. Ligament of the head of the femur

18. The lateral plantar nerve supplies all of the following muscles **EXCEPT**:

- ~~A. Quadratus plantae~~
- B. Adductor hallucis, oblique head
- ~~C. All of the plantar interossei~~
- D. Abductor hallucis
- ~~E. Third and fourth lumbricals~~

19. All of the following arteries participate in the collateral circulation at the hip joint **EXCEPT**:

- ~~A. Inferior gluteal~~
- B. Internal pudendal
- ~~C. First perforating artery of profunda femoris~~
- ~~D. Medial femoral circumflex~~
- ~~E. Lateral femoral circumflex~~

20. A muscle capable of dorsiflexion and inversion of the foot would be the

- A. Extensor digitorum brevis
- B. Extensor hallucis longus
- C. Peroneus longus
- D. Peroneus tertius
- E. Gastrocnemius

For the following series of questions, select the one lettered heading which best matches. Each lettered heading may be used once, more than once, or not at all.

- A. Great saphenous vein
- B. Small saphenous vein
- C. Peroneal vein
- D. Deep dorsal vein
- E. Internal pudendal vein

21. A tributary of the popliteal vein

22. Lies within the femoral triangle

23. A tributary of the prostatic venous plexus in the male

24. Traverses the greater sciatic foramen

- A. Produces flexion in two joints
- B. Produces flexion and extension in different joints
- C. Produces flexion and medial rotation in same joint
- D. Produces adduction and rotation in same joint
- E. Produces lateral rotation and abduction in same joint

25. Quadratus femoris

26. Rectus femoris

27. Piriformis

28. Sartorius

29. First lumbrical

For the following series of questions, select the one lettered heading which best matches. Each lettered heading may be used once, more than once, or not at all.

- A. Lumbosacral trunk
- B. Genitofemoral nerve
- C. Ilioinguinal nerve¹¹
- D. Obturator nerve¹²³
- E. Superior gluteal nerve¹

- 30. Lies on posterior aspect of kidney **A**
- 31. Passes through the greater sciatic foramen **E**
- 32. Sensory to skin over femoral triangle **C**
- 33. Motor to cremaster muscle **B**
- 34. Contains L1-2 fibers **B**

- A. Deep perineal space
- B. Superficial perineal space
- C. Ischiorectal fossa
- D. Intrapelvic
- E. Present in each of the above areas (A-D)

- 35. Pudendal canal **C**
- 36. Bulb of the vestibule **B**
- 37. Internal pudendal artery or its branches **E**
- 38. Seminal vesicle **D**
- 39. Ejaculatory duct **D**
^{1st 2nd 3rd 4th 5th}

For the following series of questions, select the one lettered heading which best matches. Each lettered heading may be used once, more than once, or not at all.

- A. Vas Deferens
- B. Round ligament of the uterus
- C. Transverse cervical (cardinal) ligament
- D. Suspensory ligament of the ovary
- E. Mesosalpinx

- 40. Developmental equivalent of the uterine tube /
- 41. Contains the ovarian vessels /
- 42. A portion of the broad ligament /
- 43. Primary support for the uterus (

SELECT THE BEST ANSWER

44. All of the following are components of the pelvic diaphragm **EXCEPT**:

- A. Sphincter urethrae
- B. Levator prostatae
- C. Puborectalis
- D. Iliococcygeus
- E. (Ischio) coccygeus

45. Peritoneum is in contact with all of the following **EXCEPT**:

- A. Rectum
- B. Urinary bladder
- C. Seminal vesicle
- D. Vagina
- E. Prostate

46. All of the following statements regarding the membranous portion of the urethra are correct **EXCEPT**. It is

- A. narrower than the prostatic portion.
- B. the shortest portion in the male.
- C. joined by the ejaculatory ducts.
- D. surrounded by voluntary muscle in the male.
- E. located in the deep perineal space.

47. In a healthy lower limb, an arterial pulse can usually be manually assessed in all of the following EXCEPT:

- ~~A. Posterior tibial artery.~~
- B. Inferior gluteal artery.
- ~~C. Dorsalis pedis artery.~~
- ~~D. Popliteal artery.~~
- ~~E. Femoral artery.~~

For the following questions, select the item which does not belong with the others or is incorrect.

EXAMPLE:

- A. Superior gluteal artery
- B. Inferior gluteal artery
- C. Profunda femoris artery
- D. Inferior vesicle artery
- E. Umbilical artery

The correct answer would be "C" , since it is the only one which does not branch from the internal iliac artery.

48. ☐ A. Fundus
☐ B. Supravaginal cervix
☐ C. Internal os
☒ D. Posterior fornix
☐ E. Body

49. ☐ A. Ducts of prostate gland
☒ B. Duct of bulbourethral glands
☐ C. Ejaculatory ducts
☐ D. Internal urethral orifice
☐ E. Prostatic utricle

50. ☐ A. Hymen
☐ B. Vaginal orifice
☐ C. External urethral orifice
☐ D. Orifice of greater vestibular gland duct
☐ E. Labia majora

51. A. Lateral femoral cutaneous nerve
B. Posterior femoral cutaneous nerve
C. Inferior gluteal nerve
D. Nerve to piriformis
E. Nerve to levator ani
52. A. Median arcuate ligament: aorta
B. Medial arcuate ligament: psoas major muscle
C. Medial arcuate ligament: sympathetic trunk
D. Lateral arcuate ligament: iliacus muscle
E. Lateral arcuate ligament: subcostal nerve
53. A. Testicular artery
B. Deep artery
C. Artery of the bulb
D. Perineal artery
E. Dorsal artery
54. A. Pudendal nerve
B. Superior gluteal nerve
C. Obturator nerve
D. Sciatic nerve
E. Piriformis muscle
55. A. Major calyx
B. Minor calyx
C. Renal pelvis
D. Renal sinus
E. Ureter
56. A. Inferior vena cava: T8^x
B. Phrenic nerves: T12
C. Esophagus: T10
D. Thoracic duct: T12—
E. Anterior vagal trunk: T10

SELECT THE BEST ANSWER

57. Which of the following nerves supplies the skin overlying the mons pubis?
- ~~A. Genital branch of genitofemoral nerve.~~
 - B. Iliohypogastric nerve.
 - ~~C. Femoral branch of genitofemoral nerve.~~
 - D. Ilioinguinal nerve.
 - ~~E. Pudendal nerve.~~
58. All of the following structures are included within the rectus sheath **EXCEPT**
- A. Pyramidalis muscle (when present).
 - B. Ligamentum teres.
 - ~~C. Inferior epigastric vessels.~~
 - ~~D. Anterior branches of thoracoabdominal nerves T₇ - L₁.~~
 - ~~E. Superior epigastric vessels.~~
59. If it were necessary to tap a hydrocele, (fluid in the tunica vaginalis) the needle would pierce all of the following layers **EXCEPT**.
- ~~A. Dartos tunic.~~
 - ~~B. Internal spermatic fascia.~~
 - C. Visceral tunica vaginalis.
 - ~~D. Cremasteric fascia.~~
 - ~~E. External spermatic fascia.~~
60. All of the following statements regarding the inguinal canal at the superficial inguinal ring are true **EXCEPT**.
- ~~A. It is a triangular defect in the aponeurosis of the external abdominal oblique muscle.~~
 - ~~B. It is located within the boundaries of the inguinal triangle.~~
 - ~~C. In the male it permits the passage of the spermatic cord.~~
 - D. It is strengthened medially and posteriorly by the conjoint tendon.
 - E. Internal spermatic fascia originates from its margins.
- 70811, 100*

61. All of the following statements regarding the epididymis are true **EXCEPT**
- A. The head is connected to the testis via the rete testis.
 - ~~B. The tail is continuous with the vas deferens.~~
 - C. It lies along the mediastinum of the testis.
 - ~~D. The expanded superior portion is known as the head.~~
 - ~~E. It serves as a site for maturation and storage for sperm.~~
62. All of the following statements regarding inguinal hernias are true **EXCEPT**
- ~~A. The inferior epigastric vessels are medial to the neck of an indirect inguinal hernia.~~
 - ~~B. A direct inguinal hernia passes directly through the deep inguinal ring.~~
 - C. An indirect inguinal hernia may be the result of a patent processus vaginalis.
 - D. A direct inguinal hernia lies lateral to the inferior aspect of the anterior rectus sheath.
 - E. Both direct and indirect inguinal hernias lie superior to the inguinal ligament.
63. All of the following statements regarding the spleen are true **EXCEPT**
- ~~A. It is intraperitoneal.~~
 - B. The spleen is in contact with the uncinat process of the pancreas.
 - ~~C. It receives its blood supply via the lienorenal ligament.~~
 - ~~D. Its position is maintained in the supracolic compartment by the phrenicocolic ligament.~~
 - E. There is no lymph drainage from the "pulp" of the spleen.

MATCHING:

Match the autonomic innervation listed below with the organ indicated. Each lettered heading may be used once, more than once, or not at all.

- ~~A. Pelvic splanchnic nerve~~
- B. Lumbar splanchnic nerve
- ~~C. Vagus nerve~~
- ~~D. Thoracic splanchnic nerve~~
- E. None of the above

- 64. Preganglionic sympathetic nerve to descending colon. *WAGNER*
- 65. Preganglionic parasympathetic nerve to gall bladder.
- 66. Preganglionic sympathetic nerve to suprarenal gland.
- 67. Postganglionic sympathetic nerve to appendix.
- 68. Preganglionic parasympathetic nerve to sigmoid colon.

Use the following key for Questions 69 - 74.

- A. Only statement (A) is true.
- B. Only statement (B) is true.
- C. Both (A) & (B) are true.
- D. Neither (A) nor (B) are true.

69. (A) The ascending colon has epiploic appendices whereas the ileum does not.
(B) The marginal artery (of Drummond) is associated with the large intestine but not the small intestine.
70. (A) The ligamentum venosum courses in the free margin of the falciform ligament.
(B) The quadrate and caudate lobes are a functional part of the right lobe of the liver.
71. (A) The gastrolial ligament contains the short gastric vessels.
(B) The right colic artery would be found within the mesentery proper.
72. (A) The lesser omentum contains the inferior vena cava.
(B) The pyloric sphincter of the stomach is a thickening of the circular layer of smooth muscle of the stomach.
73. (A) A portion of the lesser peritoneal sac lies posterior to the stomach.
(B) The lesser peritoneal sac communicates with the greater peritoneal sac via the epiploic foramen.
74. (A) The liver receives oxygenated blood via branches of the common hepatic artery.
(B) The portal vein is formed at the junction of the superior and inferior mesenteric veins.

MATCHING:

Match the organ with the first lymph nodes that would normally receive drainage from the organ. Each lettered heading may be used once, more than once or not at all.

- A. Pancreaticocolic nodes
- B. Superior mesenteric nodes
- C. Celiac nodes
- D. Upper lumbar nodes
- E. ~~Right gastroepiploic~~

- 75. Cecum B
- 76. Fundus of stomach A M C
- 77. Testis D
- 78. Right portion of the lesser curvature of the stomach A M A

SELECT THE BEST ANSWER

- 79. Which of the following associations is **NOT** correct?
 - A. Lienorenal ligament - tail of the pancreas
 - B. Ligament of Treitz - duodenojejunal junction
 - C. Hepatoduodenal ligament - hepatic portal vein
 - D. Ligamentum teres (of liver) - umbilical artery ✓
 - E. Transverse mesocolon - middle colic artery
- 80. If the common hepatic artery was ligated prior to the right gastric branch, arterial blood supply to the liver could be maintained by all of the following routes **EXCEPT**:
 - A. Left gastric artery to right gastric artery
 - B. Left gastroepiploic artery to right gastroepiploic artery
 - C. Right gastric artery to proper hepatic artery
 - D. Inferior pancreaticoduodenal artery to superior pancreaticoduodenal artery
 - E. Splenic artery to left gastroepiploic artery

81. The first portion of the duodenum

- ~~A.~~ is retroperitoneal.
- B. receives the hepatopancreatic duct.
- ~~C.~~ contains plicae circularis.
- ~~D.~~ represents the junction of the embryonic midgut and hindgut.
- E. is supplied by the supraduodenal artery.

82. The parietal peritoneum

- A. lines all of the organs of the abdomen and pelvis.
- ~~B.~~ is innervated by autonomic nerves.
- ~~C.~~ lies superficial to transversalis fascia.
- D. is sensitive to pain and touch.
- E. none of the above.

83. Internal hemorrhoids

- ~~A.~~ never protrude from the anus.
- B. occur in the perianal skin.
- C. are the result of distension of the inferior rectal veins.
- ~~D.~~ occur in the walls of the rectum.
- E. occur deep to the mucous membrane of the anal columns.

Match the listed structures with the locations given below. Each lettered heading may be used once, more than once or not at all.

- ~~A.~~ 7th intercostal space
- B. 9th intercostal space, left side
- ~~C.~~ L₄ vertebral body
- D. Transpyloric plane
- ~~E.~~ Umbilicus

84. Hilum of right kidney

85. Spleen

86. Body of the pancreas

87. Superior mesenteric vessels

95. Muscle most important in maintaining normal pelvic posture during single-limb support phase of gait cycle include:

- A. Adductor magnus muscle
- B. Biceps femoris muscle
- C. Gluteus medius muscle
- D. Tensor fascia lata muscle

For the following questions, match the structure indicated on the diagram with the appropriate structure from the list provided.

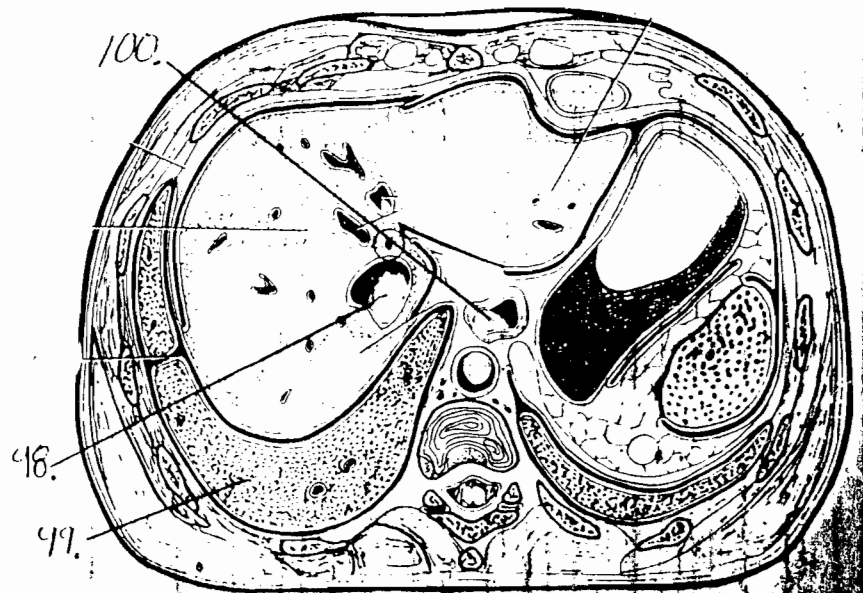
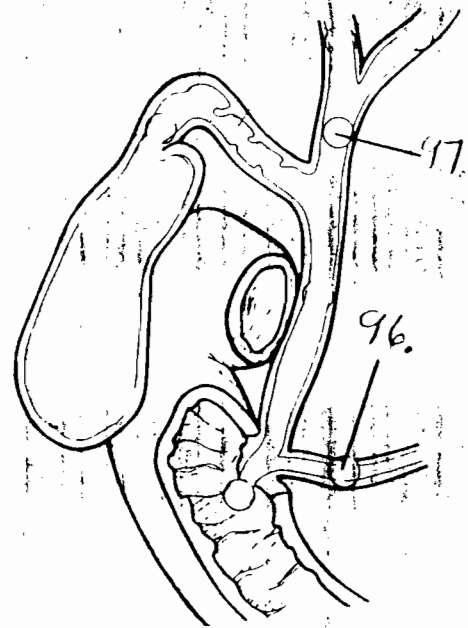
96. A. Cystic duct
B. Common hepatic duct
C. Common bile duct
D. Main pancreatic duct
E. Right hepatic duct

97. ~~A. Cystic duct~~
~~B. Common hepatic duct~~
~~C. Common bile duct~~
~~D. Main pancreatic duct~~
~~E. Right hepatic duct~~

98. A. Aorta
B. Inferior vena cava
C. Hepatic vein
D. Esophagus
E. Portal vein

99. ~~A. Spleen~~
~~B. Lung~~
~~C. Liver~~
~~D. Kidney~~
~~E. Pancreas~~

100. ~~A. Aorta~~
~~B. Inferior vena cava~~
~~C. Hepatic vein~~
D. Esophagus
E. Portal vein



Class: FIRST YEAR Course #: ENTER94
 Name: Time:

| | B | |
|--------------------|------------|------------|
| Test Key: | DAEBCEABCB | EBECADADBB |
| Items 1-50: | 1234567890 | 1234567890 |
| Student's Answers: | *****A**** | ***DBA**** |

| | C | | D | |
|--------------------|------------|-------------|-------------|---------------|
| Test Key: | ADAEDBDBCE | ABBBBCDEACD | ABCABCD CDC | EDED BDDDAC |
| Items 51-100: | 1234567890 | 1234567890 | 1234567890 | 1234567890 |
| Student's Answers: | ****E*B*** | *****B* | *C*D***A*D | BE*****B***** |



| | | | | | |
|------------------|------|-------------|-------|--------|------|
| | | TOTAL SCORE | | 73.397 | 73 |
| WRITTEN | 76.2 | 84.0 | 0.0 | 81.0 | 0.0 |
| NO. OF QUESTIONS | | 119.0 | 0.1 | 99.0 | 1.0 |
| % SCORE | | 70.6 | 0.0 | 81.8 | 0.0 |
| PRACTICAL | 70.8 | 32.0 | 49.0 | 60.0 | 0.0 |
| | | 39.0 | 79.0 | 80.0 | 1.0 |
| % SCORE | | 82.1 | 62.0 | 75.0 | 0.0 |
| QUIZZES | 68.7 | 16.00 | 11.00 | 11.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 |
| | | 0.00 | 0.00 | 0.00 | 0.00 |
| COMPREHENSIVE | 0.0 | 0.0 | 0.0 | 0.00 | |
| % SCORE | | 0.0 | 0.0 | | |

Weight of WRITTEN exams = 50
 Weight of PRACTICAL exams = 45
 Weight of QUIZZES = 5

IF YOU HAVE QUESTIONS CONCERNING THE CALCULATIONS, PLEASE CONTACT DR. YEASTING.